

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
09/841,486	04/25/2001	Yasuo Iwasa	Q63961	4521	
65565 SUGHRUE-26	7590 05/21/2007 55550		EXAMINER		
2100 PENNSY	LVANIA AVE. NW		VO, HAI		
WASHINGTO	ON, DC 20037-3213		ART UNIT .	PAPER NUMBER	
			1771		
			MAIL DATE	DELIVERY MODE	
			05/21/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



Commissioner for Patents United States Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450 www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/841,486

Filing Date: April 25, 2001 Appellant(s): IWASA ET AL. MAILED MAY 2 1 2007 GROUP 1700

Jennifer M. Hayes For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 02/12/2007 appealing from the Office action mailed 12/01/2005.

Art Unit: 1771

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The statement of Related Appeals and Interferences contained in the brief is correct.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows:

Claim 11 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over WO 99/46117 (Arai) as applied to claim 1 above, and further in view of JP 07-195827 to Fujita (JP '827).

Art Unit: 1771

(7) Claims Appendix

A substantially correct copy of appealed claims appears on page 15 of the Appendix to the appellant's brief. The minor errors are as follows: claims 20 and 21 should be removed from the brief because they are not involved in the appeal.

(8) Evidence Relied Upon

6,632,487

ARAI et al

10-2003

WO 99/46117, Arai et al, September 16, 1999.

English Abstract of JP 07-195827, Takeshi Fujita, "Recording Sheet and Production Thereof", August 01, 1995.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-6, 8-10, and 13-19 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over WO 99/46117. US 6,632,487 to Arai et al is relied on as an equivalent form of WO 99/46117.

Arai teaches a sheet useful as an image-receiving sheet for an ink-jet recording comprising a substrate and a porous resin film provided on the substrate (abstract). The porous resin film comprises 95 parts by weight of a mixture of hydrophilic and hydrophobic resins and 5 parts of an inorganic fine powder (example 10). The porous film contains 5 to 50% by weight of the hydrophilic resin based on total amount of the hydrophilic resin and hydrophobic resin (column 7, lines 25-30). Likewise, the porous

Application/Control Number: 09/841,486

Art Unit: 1771

film contains 5 to 50% by weight of the hydrophilic resin and 95 to 50% by weight of the hydrophobic resin. The ratio of the amount of the hydrophilic resin to the amount of the hydrophobic resin is 5:95 to 1 within the claimed range. The hydrophilic resin is polyethylene oxide (example 10). The porous resin film is prepared by kneading (column 9, lines 40-45). The inorganic fine powder has an average particle size of 1 to 5 microns (column 8, lines 32-35). The hydrophilic resin is polyolefin (column 5, lines 8-10). Arai does not disclose the hydrophilic thermoplastic resin capable of absorbing 5 g/g or more of water in 30 minutes. However, it appears that Arai uses the same polyolefin as the hydrophilic resin as Applicants. Therefore, it is the examiner's position that the absorbing capability would be inherently present. Like material has like property. This is in line with In re Spada, 15 USPQ 2d 1655 (1990) which holds that products of identical chemical composition can not have mutually exclusive properties. The powdery coating composition is mixed with inorganic particles. The powdery mixture is melted by heating to form a porous resin layer on the substrate (column 9, lines 50-63). The particles of powdery coating are fused to each other to form a porous resin layer having a thickness of 20 microns (column 23, lines 25-30). Likewise, the porous resin layer is able to stand on the substrate by itself. The porous resin layer has a thickness that is sufficient to retain the self-supporting properties. Arai does not specifically disclose an average contact angle, porosity, and pore density of the porous resin film. However, it appears that the porous resin film meets all the structural limitations and chemistry as required by the claims. The porous resin film comprises 95 parts by weight of a mixture of hydrophilic and hydrophobic resins and 5

Application/Control Number: 09/841,486

Art Unit: 1771

parts of an inorganic fine powder (example 10). The ratio of the amount of the hydrophilic resin to the amount of the hydrophobic resin is 5:95 to 1 within the claimed range. The porous resin film is prepared by kneading (column 9, lines 40-45). The inorganic fine powder has an average particle size of 1 to 5 microns (column 8, lines 32-35). The hydrophilic resin is polyolefin (column 5, lines 8-10). The hydrophilic resin is polyethylene oxide (example 10). It seems from the claim, if one meets the structure recited, the properties must be met or Applicant's claim is incomplete. Hence, it is the examiner's position that the average contact angle, porosity, and pore density would be inherently present. Arai does not specifically disclose that the porous resin is stretched and the inorganic fine powder being subjected in an intermeshing twin screw extruder at a screw shear rate of 300 sec-1 or higher. However, they are product-by-process limitations not as yet shown to produce a patentably distinct article. It is the examiner's position that the porous resin film of Arai is identical to or only slightly different than the claimed porous resin film prepared by the method of the claim, because both articles are formed from the same materials, having structural similarity. The porous resin film comprises 95 parts by weight of a mixture of hydrophilic and hydrophobic resins and 5 parts of an inorganic fine powder (example 10). The ratio of the amount of the hydrophilic resin to the amount of the hydrophobic resin is 5:95 to 1 within the claimed range. The porous resin film is prepared by kneading (column 9, lines 40-45). The inorganic fine powder has an average particle size of 1 to 5 microns (column 8, lines 32-35). Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability

Art Unit: 1771

of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289,291 (Fed. Cir. 1983). It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Arai.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/46117 as applied to claim 1 above, and further in view of JP 07-195827.

Arai fails to teach the alkylene oxide polymer is a reaction product of an alkylene oxide compound and a dicarboxylic acid compound. Fujita, however, teaches a recording sheet used in printing made from an alkylene oxide polymer which is a reaction product of an alkylene oxide compound and a dicarboxylic acid compound (abstract). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ an alkylene oxide polymer as a reaction product of an alkylene oxide compound and a dicarboxylic acid compound because of its practical and economical method of preparing the alkylene oxide polymer of the recording sheet.

Art Unit: 1771

(10) Response to Argument

Examiner's comments regarding Appellants' issue A

Appellants argue that Arai does not teach or suggest a self-supporting stretched porous resin film. The examiner respectfully disagrees. The examiner directs Appellants' attention to column 9, lines 50-63. The powdery coating composition is mixed with inorganic particles. The powdery mixture is melted by heating to form a porous resin layer on the substrate. The particles of powdery coating are fused to each other to form a porous resin layer having a thickness of 20 microns (column 23, lines 25-30). The porous resin layer is able to stand up of its own on the substrate by this process.

Appellants argue that the porous resin layer cannot be an independent self-supporting ink-receiving layer because the porous resin layer is formed on a paper as shown in example 10. The examiner respectfully disagrees. It is not technically erroneous to conclude that the porous resin layer is supported because it is laid down on the paper substrate because self-supporting is generally dependent upon a thickness and/or a composition. It appears that the porous resin layer has a thickness falling in the same range as the self-supporting film of the present invention. The porous resin layer is made of the same composition as the self-supporting film as instantly claimed. Therefore, it is not seen that the porous resin film could not have been able to stand up of its own on the paper substrate as the self-supporting film of the claimed invention. The porous resin has a thickness sufficient to retain its self-supporting properties.

Application/Control Number: 09/841,486

Art Unit: 1771

Appellants argue that it is the examiner's position that a "stretched" film is inherent in the powdery composition. The arguments appear to be flawed and incomplete. The examiner never contends that the "stretched" film is inherent based on the powdery composition of Arai. As previously discussed, the term "stretch" is considered as a product-by-process limitation not as yet shown to produce a patentably distinct article. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Arai.

Examiner's comments regarding Appellants' issue B

Appellant's reiterated positions taken with respect to the rejections over Arai in view of JP'827. The examiner has provided a detailed analysis as to why Arai does teach a self-supporting porous film. The examiner incorporates those arguments by reference. Thus, the examiner respectfully submits that all pending claims are not patentable in view of the cited references.

Application/Control Number: 09/841,486

Art Unit: 1771

Page 9

(11) Related Proceeding(s) Appendix

Copies of the court or Board decision(s) identified in the Related Appeals and Interferences section of this examiner's answer are provided herein.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

HV

HAI VO PRIMARY EXAMINER

Hai V

Conferees:

Carol Chaney, SPE AU 1773

Jennifer Michener, TC Appeals Specialist

()15 miles

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte YASUO IWASA and SHIGEKAZU OI

MAILED

Appeal No. 2004-2257 Application No. 09/841,486

MAR 1 7 2005

HEARD: FEBRUARY 8, 2005

PAT. & T.M. OFFICE BOARD OF PATENT APPEALS AND INTERFERENCES

Before GARRIS, PAK, and JEFFREY T. SMITH, Administrative Patent Judges.

PAK, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the examiner's refusal to allow claims 1 through 6, 8 through 11 and 13 through 19. Claims 20 and 21, the only other claims

After indicating cancellation of claims 7 and 12 in the above-identified application, the appellants have inadvertently asserted that they are appealing "from the [e]xaminer's rejection of claims 1-7, 9-11 and 13-19." See the Brief dated February 23, 2004, page 2. By making the claims on appeal to reflect those which have not been canceled, we have made appropriate correction

remaining in the above-identified application, were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

See the Answer, page 2. Claim 1 was amended subsequent to the final Office action dated March 21, 2003.

APPEALED SUBJECT MATTER

The subject matter on appeal is directed to "[a] stretched porous resin film" useful for an ink jet recording medium, having excellent aqueous liquid or ink absorptivity. See claim 1, together with the specification, page 1. Details of the appealed subject matter are recited in claim 1 which is reproduced below:

1. A stretched porous resin film which is obtained from a compound prepared by kneading a composition consisting essentially of 30 to 100% by weight of a thermoplastic resin comprising 5 to 100 parts by weight of a

to the appellants' inadvertent error in the Brief consistent with the appellants' subsequent corrective statement at page 2 of the Reply Brief dated June 29, 2004. The appellants have also asserted for the first time in the appeal that they are appealing from the examiner's objection to claims 20 and 21. See the Reply Brief, page 2. By so asserting, the appellants have failed to recognize that the examiner's objection is not a matter reviewable by the Board (the Board of Patent Appeals and Interferences). The appellants' remedy is through a timely filed petition to the Director of the appropriate Technology Center under 37 CFR § 1.181 (2003).

hydrophilic thermoplastic resin per 100 parts by weight of a non-hydrophilic thermoplastic resin and 0 to 70% by weight of at least one of an inorganic fine powder and an organic fine powder in an intermeshing twin-screw extruder at a screw shear rate of 300 sec⁻¹ or higher and which has a liquid absorbing capacity of 0.5 ml/m² or more as measured in accordance with the method specified in Japan TAPPI Standard No. 51-87

PRIOR ART

The examiner relies on the following prior art references:

Suzuki et al. (Suzuki)	4,506,037	Mar.	19,	1985
Arai et al. (Arai) Fujita et al. (Fujita)	4,686,118 5,059,630	-	•	1987 1991

THE REJECTIONS

The appealed claims stand rejected as follows:

- 1) Claims 1 through 6, 8, 9 and 13 through 19 under 35 U.S.C.
 § 102(b) as anticipated by the disclosure of Suzuki²;
- 2) Claim 10 stands rejected under 35 U.S.C. § 103 as unpatentable over the combined disclosures of Suzuki and Arai; and

² At page 3 of the Answer, the examiner has inadvertently included canceled claim 7 in this rejection. We have corrected this inadvertent error made by the examiner by deleting canceled claim 7 from the statement of rejection.

3) Claim 11 stands rejected under 35 U.S.C. § 103 as unpatentable over the combined disclosures of Suzuki, Arai and Fujita.

OPINION

We have carefully reviewed the claims, specification and prior art, including all of the arguments advanced by both the examiner and the appellants in support of their respective positions. This review has led us to conclude that the examiner's rejections are not well founded. Accordingly, we will not sustain the examiner's rejections for the reasons set forth in the Brief, the Reply Brief and below.

SECTION 102 REJECTION

Under Section 102, anticipation is established only when a single prior art reference clearly and unequivocally discloses, either expressly or under the principles of inherency, each and every element of the claimed subject matter without any need for picking, choosing and combining various disclosures within the reference. *In re Arkley*, 455 F.2d 586, 587-88, 172 USPQ 524, 526 (CCPA 1972).

Here, as evidence of anticipation of the subject matter defined by claims 1 through 6, 8, 9 and 13 through 19 under Section 102(b), the examiner relies on the disclosure of Suzuki.

Suzuki, however, does not clearly and unequivocally disclose the claimed subject matter. To arrive at the claimed subject matter, a person having ordinary skill in the art must select specific proportions of specific hydrophilic solid powders falling within the generic teachings provided by Suzuki. The resin foams exemplified in Suzuki, for example, are not produced by using a thermoplastic resin containing the claimed proportion of a hydrophilic thermoplastic resin. See columns 7-13, Examples 1-6. To remedy this deficiency in Suzuki's examples, one of ordinary skill in the art must not only be able to envisage a hydrophilic thermoplastic resin from the large list of hydrophilic solid powders provided at column 2, lines 51-66, of Suzuki, but also be able to readily select the claimed proportion from Suzuki's disclosed proportions based on the end uses different from that disclosed by the appellants. Compare Suzuki, column 5, lines 23-37 and column 7, lines 7-16, with the specification, page 4-7. As stated in Arkley, such picking and choosing of ingredients and proportions to arrive at the claimed subject matter have no place in the making of a Section 102 anticipation rejection.3

³ On this record, the examiner has not established that one of ordinary skill in the art would have been motivated to use the claimed proportion of the fine hydrophilic thermoplastic resin in the articles taught by Suzuki since Suzuki does not teach using

It follows that the examiner on this record has not established a *prim facie* case of anticipation. Accordingly, we reverse the examiner's Section 102 rejection.

SECTION 103 REJECTIONS

Under Section 103, both the motivation or suggestion to combine the prior art teachings and the requisite reasonable expectation of success must be found in the prior art references in order to establish a prima facie case of obviousness. In re Vaeck, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991).

Here, as evidence of obviousness of the subject matter defined by claims 10 and 11 under Section 103, the examiner relies on the disclosures of Suzuki, Arai and Fujita. According to the examiner (Answer, pages 7-8), Suzuki teaches all the claimed limitations, except for the hydrophilic alkylene oxide polymer recited in claim 10 or the hydrophilic alkylene oxide polymer produced by a reaction between an alkylene oxide compound and a dicarboxylic acid compound as recited in claim 11. The

the fine hydrophilic thermoplastic resin for forming the recording medium contemplated by the appellants. See column 7, lines 6-16. As indicated by Suzuki (column 5, lines 23-37), the proportion of the fine hydrophilic solid powder used "can be varied widely according to the types of the resin and the fine solid powder, the water absorption and the water vapor adsorption ratio required of the resulting porous agglomerated particles, etc." (Emphasis added).

examiner then relies on Arai to teach a hydrophilic alkylene oxide polymer and Fujita to teach a hydrophilic alkylene oxide polymer formed from a reaction between an alkylene oxide compound and a dicarboxylic acid compound. Id. Based on these combinations of teachings, the examiner holds that it would have been obvious to use the hydrophillic alkylene oxide polymer taught by Arai and/or Fujita as the hydrophillic powder of Suzuki. Id. According to the examiner (Id.), one of ordinary skill in the art would have been motivated to use the hydrophillic alkylene oxide polymer taught by Alai and/or Fujita as the hydrophillic powder of Suzuki because of "its ready availability and economic advantage" or because "an alkylene oxide polymer and melamine [taught in Suzuki] have been shown in the art to [be] recognized equivalent hydrophilic resin[s] which [are] compatible with the non-hydrophilic resin."

We cannot subscribe to the examiner's position. In the first place, the examiner does not point to any factual basis for concluding the so-called "art . . . recognized [equivalency]" and "economic advantage" for using the alkylene oxide polymer taught by Arai and Fujita. See the Answer, pages 7 and 8. In the second place, the examiner has not explained why one of ordinary skill in the art would have been led to employ an alkylene oxide

polymer useful for end uses different from that described in Suzuki. See the Answer in its entirety. We note that Suzuki, on the one hand, is directed to producing resin foams useful for making foam sheets, foamed blow-molded articles and foamed pipes as indicated supra. On the other hand, we note that Arai and Fujita are directed to forming an ink receptive layer for a recording medium and ultrafine fibers, respectively. See the abstracts of Arai and Fujita. In the third place, as indicated supra, the examiner has not explained why one of ordinary skill in the art would have been led to employ the claimed proportion of a hydrophilic thermoplastic resin desirable for a recording medium in forming Suzuki's resin foams.

Thus, on this record, we concur with the appellants that the examiner has failed to establish a *prima facie* case of obviousness. Accordingly, we reverse the examiner's decision rejecting claims 10 and 11 under 35 U.S.C. § 103.

REMAND

We note that Arai is the closest prior art. Arai teaches (column 4, lines 11-30) that:

The present inventors have studied intensively in order to overcome such drawbacks of the prior art and consequently found that use of a mixture of polymers with different properties relative to moisture, namely formation of an ink receiving layer by mixing Polymer A

and Polymer B, will not result in lowering in strength of the ink receiving layer even under high temperature and high humidity conditions without causing stickiness of the surface, and further can form an ink receiving layer exhibiting excellent ink receiving characteristic even under low temperature and low humidity conditions, thus revealing only the advantages of Polymer A and Polymer B without manifestation of the drawbacks of both polymers.

Polymer A and Polymer B . . . at least one of them should be a hydrophilic or water-soluble polymer.

In other words, Arai, like the appellants, teaches employing the claimed combination of thermoplastic resins to optimize, *inter alia*, an ink absorbing capacity of a recording medium. Arai then goes on to exemplify employing thermoplastic resins, including the claimed proportion of a hydrophilic thermoplastic resin, to improve an ink receiving layer of a recording medium. See columns 8-11, Examples 1-6, together with column 3, line 50 to column 4, line 41. Arai does not indicate that these thermoplastic resins are kneaded via an intermeshing twin-screw extruder at a shear rate of 300 sec⁻¹ or higher. However, according to the appellants (specification, page 2), kneading these types of thermoplastic resins for the purpose of making an ink receiving layer for a recording medium is admittedly known as evidenced by JP-A-8-12871, JP-A-9-1920 and JP-A-314983.

The court provides guidance for analyzing the patentability of product-by-process claims in *In re Thorpe*, 777 F.2d 695, 697, 227 USPQ 964, 965-66 (Fed. Cir. 1985) as follows:

Product-by-process claims are not specifically discussed in the patent statute. The practice and governing law have developed in response to the need to enable an applicant to claim an otherwise patentable product that resists definition by other than the process by which it is made. For this reason, even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. In re Brown, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972); In re Pilkington, 411 F.2d 1345, 1348, 162 USPQ 145, 147 (CCPA 1969); Buono v. Yankee Maid Dress Corp., 77 F.2d 274, 279, 26 USPQ 57, 61 (2d. Cir. 1935).

The patentability of a product does not depend on its method of production. In re Pilkington, 411 F.2d 1345, 1348, 162 USPQ 145, 147 (CCPA 1969). If the product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. In re Marosi, 710 F.2d 799, 803, 218 USPQ 289, 292-93 (Fed. Cir. 1983); Johnson & Johnson v. W. L. Gore, 436 F.Supp. 704, 726, 195 USPQ 487, 506 (D. Del. 1977); see also, In re Fessman, 489 F.2d 742, 180 USPQ 324 (CCPA 1974).

Thus, upon return of this application to the examiner's jurisdiction, it is ORDERED that:

1) the examiner is to determine whether the ink receiving layer exemplified in Arai is identical or substantially identical to the claimed streched porous resin film; and

2) the examiner is to determine whether the combined teachings of Arai and the appellants' admission would have rendered the claimed streched porous resin film obvious.

The above determinations necessarily require the examiner to obtain translated copies of the above-stated Japanese documents. If any of the above determinations results in a new ground of rejection, the examiner should reopen the prosecution of this application.

This remand to the examiner pursuant to 37 CFR § 41.50(a)(1) (effective September 13, 2004, 69 Fed. Reg. 49960 (August 12, 2004), 1286 Off. Gaz. Pat. Office 21 (September 7, 2004)) is made for further consideration of a rejection. Accordingly, 37 CFR § 41.50(a)(2) applies if a supplemental examiner's answer is written in response to this remand by the Board.

CONCLUSION

In view of the foregoing, we reverse the examiner's aforementioned rejections and remand the application to the examiner for appropriate action consistent with the above instruction.

REVERSED/REMANDED

BRADLEY R. CARRIS

Administrative Patent Judge

CHUNG KI PAK

Administrative Patent Judge

JEFFREY T. SMITH

Administrative Patent Judge

BOARD OF PATENT APPEALS AND INTERFERENCES

CKP: hh

SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC 2100 PENNSYLVANIA AVE., N.W. WASHINGTON, D.C. 20037-3213